```
        10                  30                  50
         .         .         .         .         .         .
GCTCACCAAAATGGTCGTCGACAAGAATGCCTCCGGGCTTCGAATGAAGGTCGATGGCAA
           M  V  V  D  K  N  A  S  G  L  R  M  K  V  D  G  K

        70                  90                 110
         .         .         .         .         .         .
ATGGCTCTACCTTAGCGAGGAATTGGTGAAGAAACATCCAGGAGGAGCTGTTATTGAACA
 W  L  Y  L  S  E  E  L  V  K  K  H  P  G  G  A  V  I  E  Q

       130                 150                 170
         .         .         .         .         .         .
ATATAGAAATTCGGATGCTACTCATATTTTCCACGCTTTCCACGAAGGATCTTCTCAGGC
 Y  R  N  S  D  A  T  H  I  F  H  A  F  H  E  G  S  S  Q  A

       190                 210                 230
         .         .         .         .         .         .
TTATAAGCAACTTGACCTTCTGAAAAAGCACGGAGAGCACGATGAATTCCTTGAGAAACA
 Y  K  Q  L  D  L  L  K  K  H  G  E  H  D  E  F  L  E  K  Q

       250                 270                 290
         .         .         .         .         .         .
ATTGGAAAAGAGACTTGACAAAGTTGATATCAATGTATCAGCATATGATGTCAGTGTTGC
 L  E  K  R  L  D  K  V  D  I  N  V  S  A  Y  D  V  S  V  A

       310                 330                 350
         .         .         .         .         .         .
ACAAGAAAAGAAAATGGTTGAATCATTCGAAAAACTACGACAGAAGCTTCATGATGATGG
 Q  E  K  K  M  V  E  S  F  E  K  L  R  Q  K  L  H  D  D  G

       370                 390                 410
         .         .         .         .         .         .
ATTAATGAAAGCAAATGAAACATATTTCCTGTTTAAAGCGATTTCAACACTTTCAATTAT
 L  M  K  A  N  E  T  Y  F  L  F  K  A  I  S  T  L  S  I  M

       430                 450                 470
         .         .         .         .         .         .
GGCATTTGCATTTTATCTTCAGTATCTTGGATGGTATATTACTTCTGCATGTTTATTAGC
 A  F  A  F  Y  L  Q  Y  L  G  W  Y  I  T  S  A  C  L  L  A

       490                 510                 530
         .         .         .         .         .         .
ACTTGCATGGCAACAATTCGGATGGTTAACACATGAGTTCTGCCATCAACAGCCAACAAA
 L  A  W  Q  Q  F  G  W  L  T  H  E  F  C  H  Q  Q  P  T  K
```

FIG. 1

```
        550                 570                 590
         .         .         .         .         .         .
GAACAGACCTTTGAATGATACTATTTCTTTGTTCTTTGGTAATTTCTTACAAGGATTTTC
 N  R  P  L  N  D  T  I  S  L  F  F  G  N  F  L  Q  G  F  S

        610                 630                 650
         .         .         .         .         .         .
AAGAGATTGGTGGAAGGACAAGCATAACACTCATCACGCTGCCACAAATGTAATTGATCA
 R  D  W  W  K  D  K  H  N  T  H  H  A  A  T  N  V  I  D  H

        670                 690                 710
         .         .         .         .         .         .
TGACGGTGATATCGACTTGGCACCACTTTTCGCATTTATTCCAGGAGATTTGTGCAAGTA
 D  G  D  I  D  L  A  P  L  F  A  F  I  P  G  D  L  C  K  Y

        730                 750                 770
         .         .         .         .         .         .
TAAGGCCAGCTTTGAAAAAGCAATTCTCAAGATTGTACCATATCAACATCTCTATTTCAC
 K  A  S  F  E  K  A  I  L  K  I  V  P  Y  Q  H  L  Y  F  T

        790                 810                 830
         .         .         .         .         .         .
CGCAATGCTTCCAATGCTCCGTTTCTCATGGACTGGTCAGTCAGTTCAATGGGTATTCAA
 A  M  L  P  M  L  R  F  S  W  T  G  Q  S  V  Q  W  V  F  K

        850                 870                 890
         .         .         .         .         .         .
AGaGAATCAAATGGAGTACAAGGTCTATCAAAGAAATGCATTCTGGGAGCAAGCAACAAT
 E  N  Q  M  E  Y  K  V  Y  Q  R  N  A  F  W  E  Q  A  T  I

        910                 930                 950
         .         .         .         .         .         .
TGTTGGACATTGGGCTTGGGTATTCTATCAATTGTTCTTATTACCAACATGGCCACTTCG
 V  G  H  W  A  W  V  F  Y  Q  L  F  L  L  P  T  W  P  L  R

        970                 990                1010
         .         .         .         .         .         .
GGTTGCTTATTTCATTATTTCACAAATGGGAGGAGGCCTTTTGATTGCTCACGTAGTCAC
 V  A  Y  F  I  I  S  Q  M  G  G  G  L  L  I  A  H  V  V  T
```

FIG. 1 CONT'D

1030 1050 1070

TTTCAACCATAACTCTGTTGATAAGTATCCAGCCAATTCTCGAATTTTAAACAACTTCGC
F N H N S V D K Y P A N S R I L N N F A

1090 1110 1130

CGCTCTTCAAATTTTGACCACACGCAACATGACTCCATCTCCATTCATTGATTGGCTTTG
A L Q I L T T R N M T P S P F I D W L W

1150 1170 1190

GGGTGGACTCAATTATCAGATCGAGCACCACTTGTTCCCAACAATGCCACGTTGCAATCT
G G L N Y Q I E H H L F P T M P R C N L

1210 1230 1250

GAATGCTTGCGTGAAATATGTGAAAGAATGGTGCAAAGAGAATAATCTTCCTTACCTCGT
N A C V K Y V K E W C K E N N L P Y L V

1270 1290 1310

CGATGACTACTTTGACGGATATGCAATGAATTTGCAACAATTGAAAAATATGGCTGAGCA
D D Y F D G Y A M N L Q Q L K N M A E H

1330 1350 1370

CATTCAAGCTAAAGCTGCCTAAACAATCTGGGTGTTCAAAAAGTTTTTCTTGTTTTTTT
I Q A K A A *

1390 1410 1430

AAATTTAATTCTTTGAAATTATTTGTTTTCCGTCATTCTTCCTCCATTCCCTTTTCTGGT

1450

AGAAATAAAACCTTGTTTTTCAA

FIG. 1 CONT'D

002280"E6055560

FIG. 2A

PRETTYBOX of: des.msf(*) November 4, 1997 18:33:04.76

```
Mywormd6  MVVDKNASGL RMKVDGKWLY LSEELVKKHP GGAVIEQ... .......... ..........  37
Cew08d2   MVVDKNASGL RMKVDGKWLY LSEELVKKHP GGAVIEQYSI PPLNKNIETR GIITTRGSSN  60

Mywormd6  .......YRN SDATHIFHAF HEGSSQAYKQ LDLLKKHGEH DEFLEKQLEK RLDKVDINVS  90
Cew08d2   ALDILYFYRN SDATHIFHAF HEGSSQAYKQ LDLLKKHGEH DEFLEKQLEK RLDKVDINVS 120

Mywormd6  AYDVSVAQEK KMVESFEKLR QKLHDDGLMK ANETYFLFKA ISTLSIMAFA FYLQYLGWYI 150
Cew08d2   AYDVSVAQEK KMVESFEKLR QKLHDDGLMK ANETYFLFKA ISTLSIMAFA FYLQYLGWYI 180

Mywormd6  TSACLLALAW QQFGWLTHEF CHQQPTKNRP LNDTISLFFG NFLQGFSRDW WKDKHNTHHA 210
Cew08d2   TSACLLALAW QQFGWLTHEF CHQQPTKNRP LNDTISLFFG NFLQGFSRDW WKDKHNTHHA 240

Mywormd6  ATNVIDHDGD IDLAPLFAFI PGDLCKYKAS FEKAILKIVP YQHLYFTAML PMLRFSWTGQ 270
Cew08d2   ATNVIDHDGD IDLAPLFAFI PGDLCKYKAS FEKAILKIVP YQHLYFTAML PMLRFSWTGQ 300

Mywormd6  SVQWVFKENQ MEYKVYQRNA FWEQATIVGH WAWVFYQLFL LPTWPLRVAY FIISQMGGGL 330
Cew08d2   SVQWVFKENQ MEYKVYQRNA FWEQATIVGH WAWVFYQLFL LPTWPLRVAY FIISQMGGGL 360

Mywormd6  LIAHVVTFNH NSVDKYPANS RILNNFAALQ ILTTRNMTPS PFIDWLWGGL NYQIEHHLFP 390
Cew08d2   LIAHVVTFNH NSVDKYPANS RILNNFAALQ ILTTRNMTPS PFIDWLWGGL NYQIEHHLFP 420

Mywormd6  TMPRCNLNAC VKYVKEWCKE NNLPYLVDDY FDGYAMNLQQ LKNMAEHIQA KAA*443
Cew08d2   TMPRCNLNAC MKYVKEWCKE NNLPYLVDDY FDGYAMNLQQ LKNMAEHIQA KAA*473
```

I

b_5

```
boofd6  MAAQIKKYIT SDELKNHDKP GDLWISIQGK AYDVS.DWVK DHPGGSFPLK SLAGQEVTDA  59
ceeld6  .......... ...MVVDKNA SGLRMKVDGK WLYLSEELVK KHPGGAV.IE QYRNSDATHI  46

boofd6  FVAFHPAS.. TWKNLDKF.. ...FTGYYLK DY........ ...SVSEVS. KDYRKLVFEF  100
ceeld6  FHAFHEGSSQ AYKQLDLLKK HGEHDEFLEK QLEKRLDKVD INVSAYDVSV AQEKKMVESF  106

boofd6  SKMGLYDKKG HIMFA..TLC FIAMLFAMSV YGVLFCEGVL VHLF.SGCLM GFLWIQSGWI  157
ceeld6  EKLRQKLHDD GLMKANETYF LFKAISTLSI MAFAFYLQYL GWYITSACLL ALAWQQFGWL  166

boofd6  GHDAGHYMVV SDSRLNKFMG IFAANCLSGI SIGWWKWNHN AHHIACNSLE YDPDLQYIPF  217
ceeld6  THEFCHQQPT KNRPLNDTIS LFFGNFLQGF SRDWWKDKHN THHAATNVID HDGDIDLAP.  225

boofd6  LVVSSKFFGS LTSHFYEKRL TFDSLSRFFV SYQHWTFYPI MCAARLNMYV QSLIMLLTKR  277
ceeld6  ......LFAF IPGDLCKYKA SFEKAILKIV PYQHLYFTAM LPMLRFSWTG QSVQWVFKEN  279

boofd6  NVSYRAHE.. .......LLG CLVFSIWYPL LVSCLPNWGE RIMFVIASLS VTGMQQVQ.F  327
c eld6  QMEYKVYQRN AFWEQATIVG HWAW.VFYQL FL..LPTWPL RVAYFIISQM GGGLLIAHVV  336

boofd6  SLNHFSSSVY VGKPKG.NNW FEKQTDGTLD ISCPPWMDWF HGGLQFQIEH HLFPKMPRCN  386
ceeld6  TFNHNSVDKY PANSRILNNF AALQILTTRN MTPSPFIDWL WGGLNYQIEH HLFPTMPRCN  396

boofd6  LRKISPYVIE LCKKHNLPYN YASFSKANEM TLRTLRNTA. .LQARDITKP LPKNLVWEAL  444
ceeld6  LNACVKYVKE WCKENNLPYL VDDYFDGYAM NLQQLKNMAE HIQAKAA*.. ..........  443

boofd6  HTHG*448
ce ld6  .....443
```

I=I

FIG. 2B

FIG. 3A

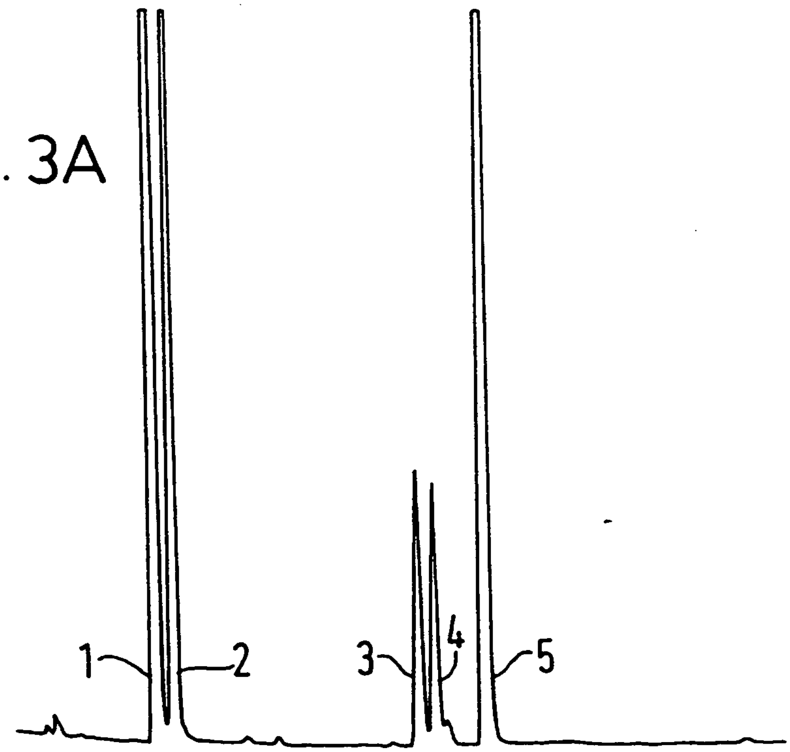
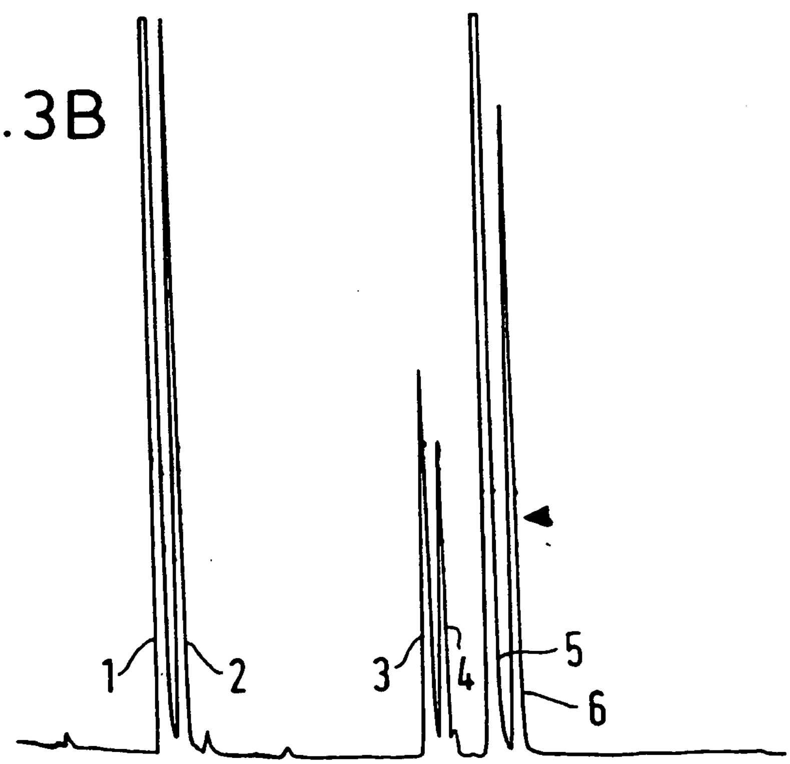


FIG. 3B

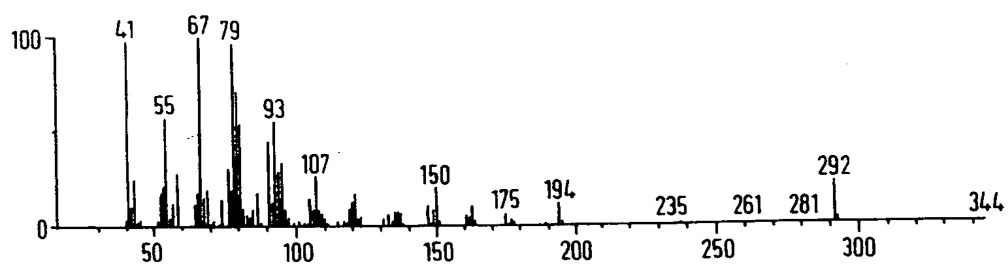


RESULTS OF PBM SEARCH USING THE wileynbs LIBRARY

Run =DOM10004 Scan=738 (Sub) 100%=413600 ADC Mass Range=40-456
23 Sep 97 3:50 Compacted SLRP +EI 1UL C.E O/N INDUCTION + LA

Serial	Rel. (Sim)	Rel. (Same)	Mol. Wt.	Formula & Name
77275	99	81	292	C19 H32 02 6, 9, 12-Octadecatrienoic acid, methyl ester
81040	95	74	122	C9 H14 1, 4-Cyclononadiene
43157	95	74	292	C19 H32 02 6, 9, 12-Octadecatrienoic acid, methyl ester
77274	93	68	292	C19 H32 02 6, 9, 12-Octadecatrienoic acid, methyl ester
6892	60	35	136	C10 H16 .BETA.-FENCHENE
4278	59	33	122	C9 H14 3-Nonen-1-yne, (z)-
25116	55	29	206	C15 H26 5-Pentadecen-7-yne, (z)-
17742	55	29	178	C13 H22 3-Tridecen-1-yne, (z)-
13423	55	29	162	C12 H18 1, 4, 8-Dodecatriene, (E, E, E)-
10169	34	11	150	C11 H18 Cyclopropane, 1-etheny-2-hexenyl-, 1.alpha., 2.beta. (E)
2366	33	10	108	C8 H12 1, 4-Cyclooctadiene, (z, z)-
2372	32	9	108	C8 H12 Bicyclo 5.1.0. oct-3-ene
6909	24	6	136	C10 H16 Cyclooctene, 3-ethenyl-
10171	23	6	150	C11 H18 Cyclohexene, 3-(3-methyl-1-butenyl)-, (E)-
29046	23	6	222	C15 H26 0 5, 10-Pentadecadienal, (z, z)-
17743	21	5	178	C13 H22 3-Tridecen-1-yne, (E)-
10173	20	4	150	C11 H18 Spiro 5.5.undec-1-ene
4281	20	4	122	C9 H14 Bicyclo 5.1.0. octane, 8-methylene-
10192	18	3	150	C11 H18 (-)-2-METHYL-2-BORNENE
4291	18	3	122	C9 H14 1, 2-CYCLONONADIENE
2597	18	3	110	C8 H14 Cyclopentane, (1-methylethylidene)-
7335	12	2	138	C10 H18 4-Decyne
67891	11	2	82	C6 H10 Cyclopropane, 1, 2-dimethyl-3-methylene-, cis-
618	11	2	82	C6 H10 Cyclopropane, 1, 2-dimethyl-3-methylene-, trans-
71289	4	1	136	C10 H16 2-.BETA.-PINENE

Run =DOM10004 Scan=738 (Sub) 100%=413600 ADC Mass Range=40-456
23 Sep 97 3:50 Compacted SLRP +EI 1UL C.E O/N INDUCTION + LA



wileynbs: 77275 Rel(sim):99 Rel(same):81
6.9.12-Octadecatrienoic acid. methyl ester
C19 H32 02 MW=292.240230 CAS=2676417

Me (CH $_2$) $_4$ CH CH CH $_2$ CH CH CH $_2$ CH CH (CH $_2$) $_4$ C(O) OMe

FIG. 4

SUBSTITUTE SHEET (RULE 26)

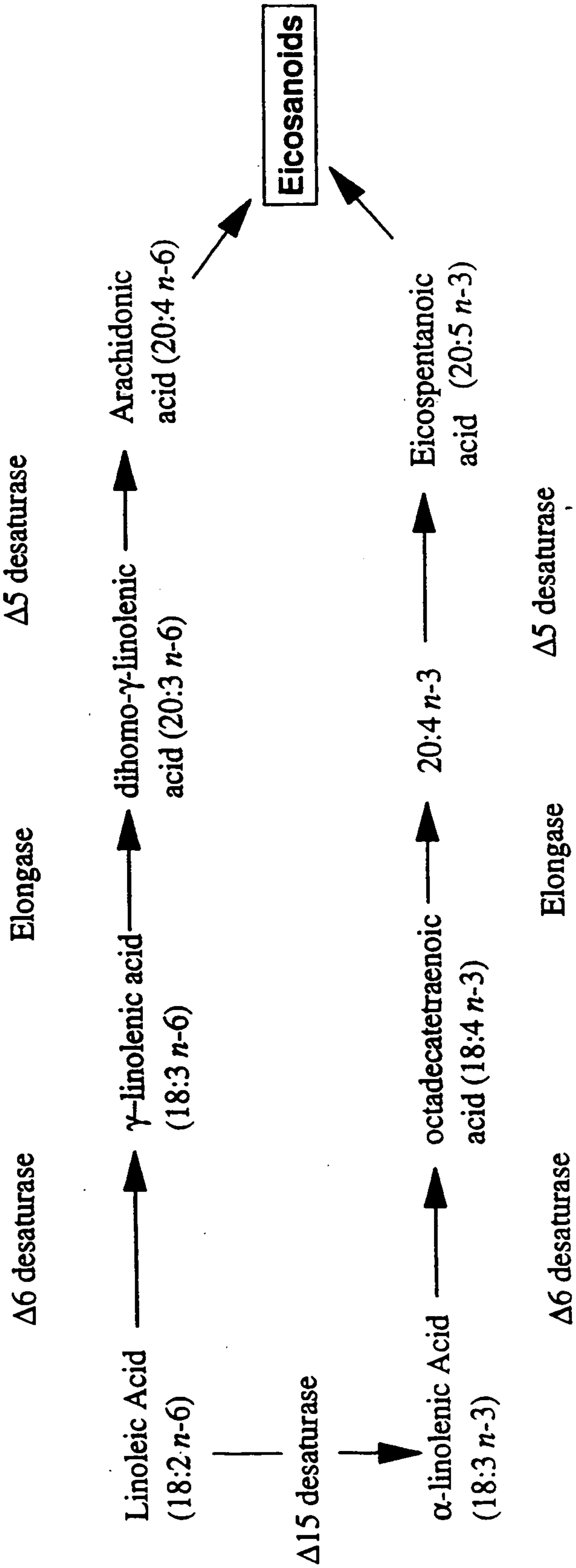

Linoleic Acid (18:2 n-6)
Δ6 desaturase
γ-linolenic acid (18:3 n-6)
Elongase
dihomo-γ-linolenic acid (20:3 n-6)
Δ5 desaturase
Arachidonic acid (20:4 n-6)
Eicosanoids
Δ15 desaturase
α-linolenic Acid (18:3 n-3)
Δ6 desaturase
octadecatetraenoic acid (18:4 n-3)
Elongase
20:4 n-3
Δ5 desaturase
Eicospentanoic acid (20:5 n-3)

FIG. 5

FIG.6A

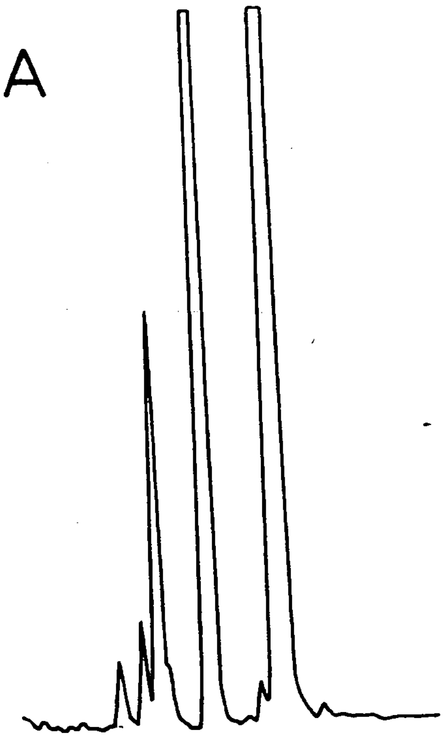


FIG.6B